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BOTANICAL GAZETTE.

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No. 3

AN ENUMERATION OF SOME PLANTS—CHIEFLY FROM THE SEMI-TROPICAL REGIONS OF FLORIDA—WHICH ARE EITHER NEW, OR WHICH HAVE NOT HITHERTO BEEN RECORDED AS BELONGING TO THE FLORA OF THE SOUTHERN STATES. BY A. W. CHAPMAN. (Concluded from page 12.)

Pancreatium (Hymenocallis) Caribacum, L. Bulb large, without runners? leaves broadly lanceolate, erect-spreading ($1\frac{1}{2}$ –2 feet long, 2–3 inches wide), obtuse; scape stout, 2-edged (2–3 feet high), many-flowered; tube of the perianth rather slender (5 inches long), about as long as the linear recurved white divisions; crown funnel-shaped, entire, or with few small teeth between the filaments.—Sandy Coast of South Florida, from Tampa Bay and Southward. Flowers very fragrant.

Pancreatium (H.) crassiflorum, Herb. Bulb large, with runners; leaves erect, lorate, obtuse, concavo-convex, thick and rigid ($1\frac{1}{2}$ –2 feet long, $\frac{3}{4}$ inch wide); scape stout, glaucous, rather longer than the leaves, 2-flowered; tube of the perianth thick (3–4 inches long), shorter than the linear spreading ochroleucous divisions; crown white, large, funnel-shaped, $\frac{1}{3}$ as long as the perianth, variously toothed between the filaments.—Low pine barrens, West Florida.

Agave rigida, Miller, var. *Sisalana*, Engelm. Caulесcent; leaves long (4–6 feet), linear-lanceolate, the margins more or less spiny, the terminal spine not decurrent; scape tall (15–20 feet), leafy-bracted; panicle large, widely spreading, the clustered flowers often viviparous; corolla funnel-shaped; stamens and style exserted.—Coast of Florida, Tampa Bay and Southward.

Juncus brachycarpus, Engelm. Stem erect (1–2 feet high), mostly 2-leaved; leaves nodose; heads 2–10, spherical, densely many-flowered, pale green; sepals linear-subulate, unequal, the 3 outer ones much longer than the inner ones, and the ovoid acute 1-celled capsule; style very short.—Near Charleston, South Carolina. (*Beyrich fide Engelmann.*)

Cyperus ligularis, L. ? (not of S. Flora). Umbel many-rayed, erect; head compact, cylindrical, pedunculate, the lateral ones shorter, ovate, nearly sessile, spreading; spikelets very numerous, crowded, short (2–3 lines long), lanceolate, sub-compressed, spreading or reflexed, pale, about 7-flowered; scales membranous, ovate, acute, 7-nerved, twice as long as the obovate triangular pointed nut; rachis broadly winged; culms stout, nearly terete (2–3 feet high), glaucous, like the broadly linear rough-margined leaves, and involucre.—Punta Rassa, South Florida. November.

Cyperus purpurascens, Vahl ?=*C. ligularis*, S. Flora.

Cyperus dissitiflorus, Torr. Cyp. Umbel simple, of 3–4 erect slender rays, shorter than the 3-leaved involucre; spikelets loosely inserted along the upper portion of the rays, lanceolate, acute, compressed, 5–7-flowered; scales oblong-lanceolate, acute; nut obovate-oblong, obtusely angled in front; rachis narrowly winged; culms filiform, from a thickened base (1–2 feet high); leaves very narrow.—Mississippi (*Carpenter*), New Orleans (*Hooker, fide Torrey*).

Cyperus retrorsus, n. sp. Umbel simple, 8-rayed; heads clavate-cylindrical; spikelets lanceolate, acute, reflexed; scales 4, the third one fertile, oblong, 9-nerved, rather longer than the oblong triangular nut, the fourth lanceolate, neutral; rachis very slender, broadly winged; culms slender (2 feet high), very smooth, triangular; leaves linear; involucre longer than the umbel.—Robert's Key, Caximbas Bay, South Florida.—Near

C. retroflexus, but more slender, with shorter and thicker spikelets, and narrower heads.

Cyperus cylindricus, n. sp. Umbel 3-6-rayed, erect, simple; heads simple, cylindrical, (1-1½ inches long.); spikelets very numerous, spreading, lanceolate, 7-9-flowered; scales oblong, obtuse, 7-9-nerved, the 2 lower ones empty, the 2-3 upper ones abortive; nut acutely triangular, oblong; rachis slender, narrowly winged; culms (1-3 feet high,) triangular, smooth, as long as the broadly linear smoothish leaves; leaves of the involucre 3-6, longer than the umbel.—Collier's Key at Marco Pass, South Florida.—Near *C. cephalanthus*, Torr. and Hook.

Scirpus ? Cubensis, Poepp and Kunth. Culm acutely triangular, leafy at the base (8-10 inches high); leaves longer than the culm, linear; involucre very long, 5-leaved; spikes obovate, compressed, 12-flowered, closely packed in a compound globular sessile terminal head; scales rigid, loose, obovate-oblong, tapering to a stout spreading point, 13-nerved; stamens 3; style long, deeply 2-parted; nut ovate-lanceolate, concavo-convex, acuminate; bristles none.—New Orleans, (*Dr. Hale*).

Trichelostylis miliacea, Nees. Culm weak, compressed 4-angled (6-12 inches high); leaves straight, erect, ensiform; umbel decomposed, widely spreading, many times longer than the 2 subulate leaves of the involucre; spikes small, (1 line in diameter), globular; scales oblong, obtuse, 3-nerved; nut pale, obovate, slightly roughened. (*Scirpus*, L. *Fimbristylis*, Vahl.)—Ditches, &c., Apalachicola, Florida.

Isolepis carinata, Hook and Arn. Culm setaceous (3-6 inches high), slightly compressed, furrowed, with a single setaceous leaf at the base; spike solitary, sub-lateral, ovate, 6-8-flowered; scales ovate, acute, strongly keeled, twice as long as the short acutely triangular roughish nut.—New Orleans, (*Dr. Hale*).

Leersia monandra, Swartz. Panicle nearly simple, spreading, exserted; spikelets minute, ovate, acute, compressed, glabrous; stamen solitary; culm slender (2-3 feet long), smooth; leaves broadly linear, rough above and on the margin.—South Florida, (*Herb. Thurber*).

Pharus latifolius, L. ? Leaves oblong, acute, rough beneath, longer than the petiole-like sheath; lower palea of the pistillate spikelet acute, downy on the back, twice as long as the lanceolate glumes.—Orange Lake, Florida, (*Herb. Thurber*).

Sporobolus purpurascens, Hamilton. Culms tall (2-3 feet) branching; leaves long, narrow-linear, slightly scabrous above, mostly hairy at the base; ligula a villous ring; panicle racemose, simple, the short spreading branches whorled; flowers short-pedicelled, smooth; glumes unequal, the upper one as long as the paleæ, twice as long as the lower one.—Wet sandy places, subject to tidal overflow. Jew-fish Key, South Florida

Muhlenbergia cæspitosa, n. sp. Culms tufted, simple (2 feet high); leaves short (4-6 inches long), narrow-linear, flat; panicle terminal, long-peduncled, sparingly branched, the straight setaceous rough branches erect; paleæ 3-nerved, bearded at the base, 4 times as long as the oval obtuse or denticulate glumes, and equalling the stout rough awn.—Dry pine barrens, near Apalachicola, Florida. July 4.—Resembles *M. trichopodes*.

Sclerachne Arkansana, Torr. Annual, low, tufted; culms erect (6-12 inches high), branching; leaves narrow, flat, pubescent, panicle contracted (2-6 inches long); glumes rigid, hispid; lower paleæ rigid, rough-awned; stamens 2.—Shell-banks, near Apalachicola, Florida. April.

Aristida simpliciflora, n. sp. Culms filiform, erect (2 feet high), sparingly branched; leaves narrow-linear; racemes simple, very slender, straight (6-9 inches long); flowers scattered, on short pedicels, single, or the lower ones by pairs; glumes nearly equal, awn-pointed (3½ lines long), the outer one longer than the paleæ; awns widely spreading, the lateral ones as long as the glumes, straight, the middle one curving in a semi-circle at base.—Damp pine barrens, West Florida.

Aristida gyrams, n. sp. Cæspitose, glabrous; culms simple, filiform (1 foot high),

purple; leaves convolute-filiform, shorter than the culm; panicle simple, few-flowered, the branches short, appressed; glumes very unequal, the lower as long as the palea, truncate, short-awned, roughish; the upper $\frac{1}{2}$ longer, attenuate, smooth; palea long-stipitate; awns nearly equal, straight, gyrate at base, $\frac{1}{2}$ longer than the palea.—Robert's Key in Caximbas Bay, South Florida.—In wet weather the awns are straight, but immediately assume their curved form when dry, as do some other awned grasses.

Aristida scabra, Kunth. Culm very short (1-2 inches) from a creeping base; leaves numerous, long, linear, their smooth sheaths enwrapping the base of the long-peduncled panicle, this very large ($1\frac{1}{2}$ -3 feet long), the widely spreading branches in alternate clusters of 2-5, flowers scattered, appressed; glumes awn-pointed, the lower one longer, the keel rough; awns erect, straight, the middle one many times longer than the minute lateral ones, 3-4 times longer than the glumes; stamens 2.—Dry sandy coast, West Florida. September.

Aristida condensata, n. sp. Culms rather stout, simple, erect; leaves rigid, linear, flat or concave, soon convolute, rough on the margins; panicle long-peduncled, contracted, densely many-flowered (1- $1\frac{1}{2}$ feet long); glumes equal, awn-pointed, rough on the keel, longer than the palea; awns erect, straight, nearly equal, longer than the glumes.—Dry sandy soil, West Florida.

Triplasis sparsiflora, n. sp. Annual? culms numerous (6-12 inches high), rigid, branching; leaves short (1-3 inches), linear-subulate, the upper ones shorter than their sheaths, which are mostly longer than the internodes; racemes simple, axillary and terminal, appressed, few-flowered; spikelets 2-4-flowered (the uppermost awn-like), the flowers large, distant; glumes thin, nearly equal, the lower cleft, the upper acute, $\frac{1}{2}$ - $\frac{3}{8}$ as long as the spikelets; lower palea scarious, oblong, 3-nerved, ciliate on the margin, strongly bidentate, twice as long as the scabrous awn; upper palea shorter, villous on the nerves above the middle.—Sandy coast at Punta Rassa, South Florida. October.

Paspalum tristachyum, Leconte. Culms creeping; flowering branches erect, short, 1-jointed; leaves oblong-linear, obtuse, flat, ciliate (1-2 inches long); peduncles 2-4 from the long sheath of the uppermost leaf (6-12 inches long); spikes 2-4, filiform, erect or spreading; spikelets in 2 rows, oblong-ovate, acute, as wide as the slender flexuous rachis; glumes sparingly hairy, 3-nerved. (*P. barbatum*, Schultes?)—Damp places, Apalachicola, Florida. Perennial.—Near *P. Michauxianum*, Kunth.

Paspalum conjugatum, Berg. Culm smooth, branching, slender ($1\frac{1}{2}$ -2 feet high); leaves linear, thin; spikes 2-3, long and slender, compressed, the terminal pair conjugate; spikelets very small, in 2 rows, ovate, yellowish; the margins loosely fringed with long weak hairs, nerveless.—New Orleans, (*Dr. Hale*).

Panicum paspaloides, Pers. Culm erect; leaves linear, smooth; panicle spicate, compound; the numerous crowded branches appressed; spikelets secund, in 2-rows, ovate, acute; glumes roundish, 5-nerved, much shorter than the acute palea, sterile flower of 2 palea, triandrous.—South Florida (*Blodgett in Herb. Thurber*).

Panicum maximum, Jacq. Culms tall (6-8 feet high); leaves flat, rigid; panicle large, ($1\frac{1}{2}$ feet long), erect, compound; branches whorled; spikelets oblong, smooth; glumes thin, faintly 5-nerved, obtuse, the upper one as long as the palea, and twice as long as the ovate, acute, lower one; sterile flowers triandrous.—South Florida, (*Blodgett in Herb. Thurber*).

Panicum striatum, Lam. Culm stout (2-3 feet high), sparingly branched; leaves lanceolate, smooth, the margins rough; panicle sub-corymbose, consisting of several erect, simple racemes, 4-5 inches long; spikelets rather large, scattered, lower glume ovate, clasping, the upper and lower sterile palea strongly 7-nerved.—Banks of the Caloosa River, South Florida. October.

Panicum prostratum, Lam. Culms creeping; leaves short (1-2 inches long), ovate-lanceolate; panicle short (2 inches long), consisting of 5-10 simple branches; spikelets

secund, oblong-ovate, acutish; upper glume 5-nerved; sterile flower triandrous; rachis sparsely hairy.—New Orleans, (*Dr. Hale*).

Panicum amplexens, n. sp. Very glabrous; culm slender, erect, the nodes black; leaves long, linear, with setaceous tips; panicle peduncled (6-10 inches long), erect, the scattered branches single, racemose-compound; spikelets oblong-ovate, acute; glumes strongly 5-7-nerved, the lower one orbicular or reniform, clasping, $\frac{1}{4}$ as long as the upper one; sterile flower neutral.—South Florida.—Allied to *P. maximum* and *P. virgatum*.

Cenchrus strictus, n. sp. Glabrous; culm strict, erect, simple, or at length sparingly branched (2-3 feet high); leaves numerous, linear, conduplicate, the lower sheaths dilated and longer than the internodes; spike cylindrical, many-flowered; involucre cuneate and naked at the base, the 10 or 11 stout spines ciliate, longer than the 2 acute smooth spikelets; sterile flower triandrous.—West coast of Florida, Apalachicola and Southward.

Ancropogon arctatus, n. sp. Culms tall (2-5 feet high), single, compressed, the erect branches forming a long simple panicle; leaves distant, linear, shaggy with long, mostly deciduous, hairs, as are also the sheaths; spikes by pairs, exserted, narrow (1-1 $\frac{1}{2}$ inches long), rather rigid, closely 15-20-flowered; glumes rough, twice as long as the stout joints, and $\frac{1}{2}$ the length of the short bent awn; pedicel of the neutral flower tipped with 2 slender glumes; hairs of the involucre few and short; stamen 1. (*A. tetra-stachyus*, var. *distachyus*, S. Flora).—Low pine barrens, West Florida.

Sorghum pauciflorum, n. sp. Annual; culms branching near the base (2-3 feet high); leaves broadly linear, flat, ciliate; flowers few (6-12), in a simple raceme, the very long (2-3 inches) setaceous pedicels in whorls of 2-6, rough, spreading; glumes equal, linear, rigid, convolute, scabrous at the apex, the lower one 2-toothed, the upper one truncate; awn very long (5-6 inches), geniculate, twisted and tortuous below the middle; sterile flowers either triandrous, linear, acute, perfect, but the short style abortive, or reduced to 2 setaceous spirally twisted pedicels.—Sandy pine barrens, near Jacksonville, East Florida.—This is unlike our other species, and has the aspect of a *Stipa*.

Imperata, *Cyr.* ? sp. Culm erect from a creeping base (2-3 feet high), simple; lowest leaves crowded, lanceolate, flat, the throat and sheaths more or less hairy, the upper ones small and remote; panicle long peduncled, loosely racemose (3-4 inches long), white from the copious wool of the flowers, the lower branches distinct, the upper ones crowded; spikelets small, ail alternate and short-pedicelled, deciduous; glumes linear, villous with long silky spreading hairs, grain free.—Banks of the Caloosa River, South Florida.—The specimens are in fruit, and all the flowers detached; and it is uncertain whether they belong to *Imperata* or *Saccharum*, or to either of them.

Aspidium unitum, var. *glabrum*, Mettenius. Fern 2-4 feet high, from a long slender black rootstock, nearly glabrous; frond ovate-lanceolate, (1 $\frac{1}{2}$ -2 feet long), pinnate, pinnae rather rigid, lanceolate, serrately lobed, the lower ones often sterile; fruit-dots contiguous, forming a continuous zigzag intramarginal line.—South Florida, in boggy places.

Ophioglossum palmatum, Plumier. Fern epiphytic, thick, succulent, drooping, 4-10 inches long, from a tuberous woolly rootstock; frond stipitate, cuneate at base, simple, or palmately 2-6-lobed, the lobes tongue-shaped, rarely forking, reticulate-veined; spikes 1—several at the summit of the stipe, or along the basal margins of the frond (1 inch long), peduncled.—In the axils of the leaves of the Palmetto, banks of the Caloosa River, South Florida.

Lycopodium inundatum, L., var. *appressum*. Size and habit of var. *pinnatum*, but leaves thinner, all entire, those of the spike, which is scarcely thicker than its peduncle, closely appressed.—Banks of the Caloosa River (November,) and Duval County, (*Curtiss*).

Lycopodium inundatum, L., var. *elongatum*. Stem creeping, sparingly branched (1½-2 feet long); leaves subulate, attenuate, entire, spreading; peduncles slender, erect or leaning (10-15 inches long), the scattered leaves narrowly subulate; those of the spike longer, spreading.—Wet banks, Apalachicola, Florida.

Lycopodium cernuum, L. Stem slender, forking near the base, the divisions arcuate-recurved, rooting at the tips, the short alternate branches forking, and terminated by the short (4-6 lines long) nodding spikes: leaves lax, about 6-ranked, linear-subulate, entire, spreading or recurved, those of the spike ovate, acuminate, the margins bristly.—Wet sandy places near Waldo, and Duval county, East Florida (*Curtiss*).

Marsilea uncinata, A. Braun. Stem long, filiform: leaflets fan-shaped, smooth, or with few scattered hairs, entire, 6-8 lines long, the slender petiole 3-6 inches long; spore-case oval, compressed, horizontal, pubescent, 2-toothed, of which the upper one is uncinately incurved, half as long as its erect stipe.—Banks of the Mississippi below Vicksburg.

SALIX BARCLAYI ANDERS, A NATIVE OF THE NORTHERN STATES. Among the Willows of the Philadelphia Acad. Herbarium we find a folded sheet containing a miscellaneous lot of undetermined leaves and aments from Kodiak and Sitcha, collected by the late Dr. Kellogg, of the United States Coast Survey. Some of these are clearly *Salix Barclayi*, And., of which no specimens were known to be extant in American herbaria, the types of the species being preserved in "the great storehouse of the world's botany at Kew." Our interest in this species is brought nearer home since it now appears that the peculiar willow found on the lake shore near Chicago by Prof. Babcock, and which to avoid the multiplication of supposed new species was briefly mentioned in his Catalogue of the Plants of Chicago as *S. cordata*, var. *glaucophylla*, should be referred to *S. Barclayi*; or else this species, Alaskan forms and all, be reduced to a variety of *S. cordata*, of which it appears to be a robust Western modification. The leaves are broader and shorter than in *S. cordata*, with somewhat the consistency of *S. lucida*, and when young turn black in drying; the capsules are much larger: the style longer, and the pedicels (mostly concealed by the densely villous scales) though showing the ordinary variation in length are shorter than in *S. cordata*, but not so short (even in specimens from Kodiak) as described and figured by Andersson. The aments resemble those of *S. discolor*, in size and woolliness. The common form with us accords with Prof. Andersson's var. *grandifolia*. Leaves 2 inches long by an inch broad, dark green and somewhat shining above, conspicuously glaucous beneath, minutely and sharply serrulate, &c. In specimens from Alaska the leaves are rarely floccose-villous especially when young or the mid-rib at least tomentose above, but they are very variable in this respect, often quite glabrous, and some of them precisely similar to forms collected by Prof. Babcock.

It is remarkable that this Willow should not have been found at intermediate stations in the Northwest by either Richardson, Drummond, Bourgeon or Dr. Lyall, nor have we ever received it from elsewhere than the west shore of Lake Michigan, though favored by many friends in the Northern States with the Willows of their respective localities.—M. S. BEBB.

LICHENS OF SOUTHERN ILLINOIS.—Mr. J. Wolf, of Canton, collected the following Lichens in Southern Illinois in the summer of 1877:

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| 1. <i>Ramalina calicaris</i> Fr. | 6. <i>pulverulenta</i> (Schreb.) Nyl. |
| 2. <i>Usnea barbata</i> (L.) Fr. | 7. <i>speciosa</i> (Wulf., Fr.) |
| 3. <i>Parmelia saxatilis</i> (L.) Fr. | 8. <i>Nephroma levigatum</i> Ach. |
| 4. <i>caperata</i> (L.) Ach. | 9. <i>Pannaria microphylla</i> (Sw.) Del. |
| 5. <i>Physcia aquila</i> , var. <i>detonsa</i> Tuck. | 10. <i>leucosticta</i> Tuck. |